VAUGHN WATER COMPANY 2010 WATER MANAGEMENT PLAN

SECTION 1

PLAN PREPARATION

1.1 Public Participation

The California State Department of Water Resources working under the Urban Water Management Planning Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an Urban Water Management Plan. This plan must be reviewed and updated every five years. The Company's 2005 Urban Water Management Plan is updated by this submittal.

Vaughn Water Company encourages public participation in all of its planning efforts by having monthly Board of Director's meetings which are open to the public. All Company policies are set by the Board at these monthly meetings. The Urban Water Management Plan was available for review in the Company's office before the special June monthly Director's meeting. The shareholders were notified of the UWMP's availability for review by legal notice in the local newspaper. Vaughn Water Company customers and shareholders had access to the plan for review before it was approved and adopted.

1.2 Plan Adoption

Vaughn Water Company presented the updated Urban Water Management Plan for approval and adoption at the Company's special June Board meeting held on June 30, 1011. After the plan was

approved and adopted at the meeting, it was submitted to the California State Department of Water Resources on July 29, 2011.

1.3 Agency Coordination

Vaughn Water Company works with the Kern County Water Agency (KCWA) and with the staff of its Improvement District No. 4 (ID#4) and Rosedale Rio-Bravo Water Storage District (RRBWSD- or Rosedale) on a number of water related issues. The Company solicits data, information, and correspondence from the Agency and Rosedale-Rio-Bravo Water Storage District concerning water management planning. The Agency in turn works with the following agencies:

California Water Services Company

City of Bakersfield Department of Water Resources

East Niles Community Services District

North of the River Municipal Water District

Oildale Mutual Water Company

Kern County Water Agency's Improvement District No. 4 and the Rosedale Rio-Bravo Water Storage District underlie Vaughn Water Company's service area. Both have groundwater management programs that help to preserve the groundwater resource by operation of groundwater recharge and recovery programs and by monitoring water quality and water levels.

Table 1
Agency Coordination for Urban Water Management Plan

	Participated in UWMP Development	Commented on the Draft	Attended Public Meetings	Sent Copy of the Draft	Sent NOI to Adopt
Kern County Water Agency				X	
City of Bakersfield Department of Water Resources				X	
Rosedale Rio-Bravo Water Storage District				X	
The County of Kern					

1.4 Implementation

This 2010 Urban Water Management Plan will be implemented on the day following the day that it is adopted by the Company Board of Directors. The resolution of adoption is included in section 7 of this plan.

SECTION 2

SYSTEM DESCRIPTION

2.1 Supplier Service Area

2.1.1 Overview of the system and impacts of the housing downturn

Vaughn Water Company's 2010 service area population is estimated to be 27,421. These customers are served through 9,359 connections, which are mostly residential (96.5%) and are located in both the City of Bakersfield and Kern County. The downturn in the housing market has slowed growth considerably. The Company is planning for an average growth rate of 100 connections per year for the next three years, although the long-term growth rate should remain relatively constant at 3.2%, which translates into an annual increase of about 390 connections per year. There is a great deal of uncertainty in the housing market and therefore it is very difficult to predict the timing of the economic recovery. Water demand predictions contained herein assume the long-term growth rate - as this is thought to be conservative. Vaughn provides for growth by drilling water supply wells and building treatment plants. The Company brought on line a new well and plant (2,500 gpm) in late 2005 and added another (3,000 gpm) in 2009. The construction of future wells is driven by demand, which is dependent on the housing market. In 2005 Vaughn had commitments to over 5,000 connections through "will serve" letters. A significant number of lots were developed between 2005 and 2008. However the downturn in the housing market left many of these lots in bankruptcy. In many cases the water infrastructure needed to supply them was in place - but abandoned by the developer. In an effort to prevent bacterial contamination due to stagnation in these systems, Vaughn isolated them from the active portions of the service grid.

Recently some of these lots have been purchased out of bankruptcy and houses are being built on them. The water infrastructure needed to serve them is gradually being reactivated and service is being extended to them. The majority of these connections are within the Rosedale Rio Bravo Water Storage District ("Rosedale"). Very little development is occurring within ID 4. Vaughn's distribution system is modeled and updated with new connections periodically. The affects of proposed developments are analyzed to determine the affects of the demands on the groundwater resource - which is communicated to Rosedale in accordance with the letter agreement between Vaughn and Rosedale.

2.1.2 Climate

Vaughn Water Company is located in Kern County at the southern end of the San Joaquin Valley. The climate is characterized as hot, dry summers and cooler, more humid winters. The temperature ranges from an average low of about 48º F in December, with occasional frosts, to a high often exceeding 100º F in the summer months. Precipitation averages 6.18 inches annually, mostly between the months of November and April. Fog is common in the winter and may last for two to three weeks at a time. See Table 2.

Table 2
Monthly Climate Data
Bakersfield Airport / Shafter CIMIS Station

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Monthly Average Eto (in)	1.25	2.07	3.85	5.69	7.48	7.98	8.23	7.40	5.78	4.11	2.04	1.18	57.06
Average Rainfall (in)	1.06	1.18	1.11	0.67	0.22	0.07	0.01	0.04	0.10	0.30	0.59	0.86	6.21
Average Temperature (ºF)	47.9	52.8	57.2	62.9	70.4	77.7	83.8	82.1	76.9	67.3	55.6	48.0	-

Et data from DWR CIMIS records for Station No. 005, USDA/Shafter Southwest. Records 1982 -2010.
Rainfall data from Western Regional Climate Center
Bakersfield WSO Airport. Records 1937 - 2010.

2.1.3 Other Demographic Factors - History and Population Growth

Vaughn Water Company was incorporated February 21, 1928 and serves the Rosedale Area of Bakersfield and adjacent areas in Kern County, California. The Company operates under a water supply permit issued by the California State Department of Health Services. The Company has added about 800 new connections to its system over the last 5 years with total connections standing at 9,359.

Vaughn Water Company's system currently consists of 8,672 metered and 687 flat rate accounts. The customer base consists of 96.5% residential and 3.5% commercial and industrial. Most of the services are mainly in the County although over the last twelve years the city areas of the service area have developed at an increasing rate. The Company has various classes of service accounts as follows:

1.) Residential (96.5%)

2.) Commercial / Institutional (2%)

3.) Industrial (.5%)

4.) Landscape Irrigation (1%)

The Vaughn Water Company service area covers approximately 27 square miles of Kern County of which the Company currently serves property in 15 sections of the County. See the Service Area Map, Appended. The area is located north of the Kern River channel and overlies portions of the Kern County Water Agency's Improvement District No. 4 and the Rosedale Rio Bravo Water Storage District. The groundwater pumping levels have lowered over the last five years due to pumping activity in the area. However, Company wells are deep and pump settings are generally deep enough to accommodate changes in groundwater levels in the area. The Company's experience has been that water quality improves in wet years when water is spread in the Kern River channel and in the several recharge projects that are in the vicinity of the Company service area.

2.1.4 Service Area Population

The Company's service area grew at an overall annual rate of about 7.2% from 1990 through 2010. This growth reflects the popularity of the Rosedale community as a bedroom community for the City of Bakersfield. Historically the community has been populated with large lots, centered around an equestrian lifestyle. Recently the area has experienced growth in small residential lots focused on a population that enjoys living in an agrarian setting, but not involved in

equestrian activities or agriculture. The Company experienced a high growth rate during the period 1990 - 2005, averaging annually 9.2 %. This rate slowed dramatically to about 1.3% in the period 2005 - 2010. The following chart demonstrates this growth, and projects the growth to 2030, based on the historical trends established from 1990 - 2010. Table 3 shows the methodology for developing the Service area population.

Table 3
Service Area Population

YEAR	TOTAL # OF ALL RESIDENTIAL CONNECTIONS (SINGLE FAMILY, MULTI FAMILY, METERED, FLAT)	AVERAGE # OF PEOPLE PER HOUSEHOLD (FROM DEPT. OF FINANCE CENSUS DATA)	POPULATION
1990	2,475	2.76	6,831
1991	2,877	2.80	8,056
1992	3,253	2.84	9,239
1993	3,755	2.87	10,777
1994	4,165	2.88	11,995
1995	4,530	2.88	13,046
1996	4,904	2.89	14,173
1997	5,235	2.89	15,129
1998	5,427	2.89	15,684
1999	5,740	2.91	16,703
2000	6,216	2.91	18,089
2001	6,560	2.92	19,155
2002	6,980	2.95	20,591
2003	7,381	2.97	21,922
2004	7,928	3.00	23,784
2005	8,520	3.01	25,645
2006	8,679	3.00	26,037
2007	8,837	3.00	26,511
2008	8,929	3.00	26,787
2009	8,969	3.01	26,997
2010	9,020	3.04	27,421

1. Service area population derived from census data based on U.S. Department of Finance data for the Bakersfield area for the years 1995 - 2010.

This population trend was projected into the future (see Chart 1), assuming that the current state of the economy will rebound to reflect long-term trends for Vaughn Water Company and the Rosedale community, approximately 3.2% annually.

Chart 1

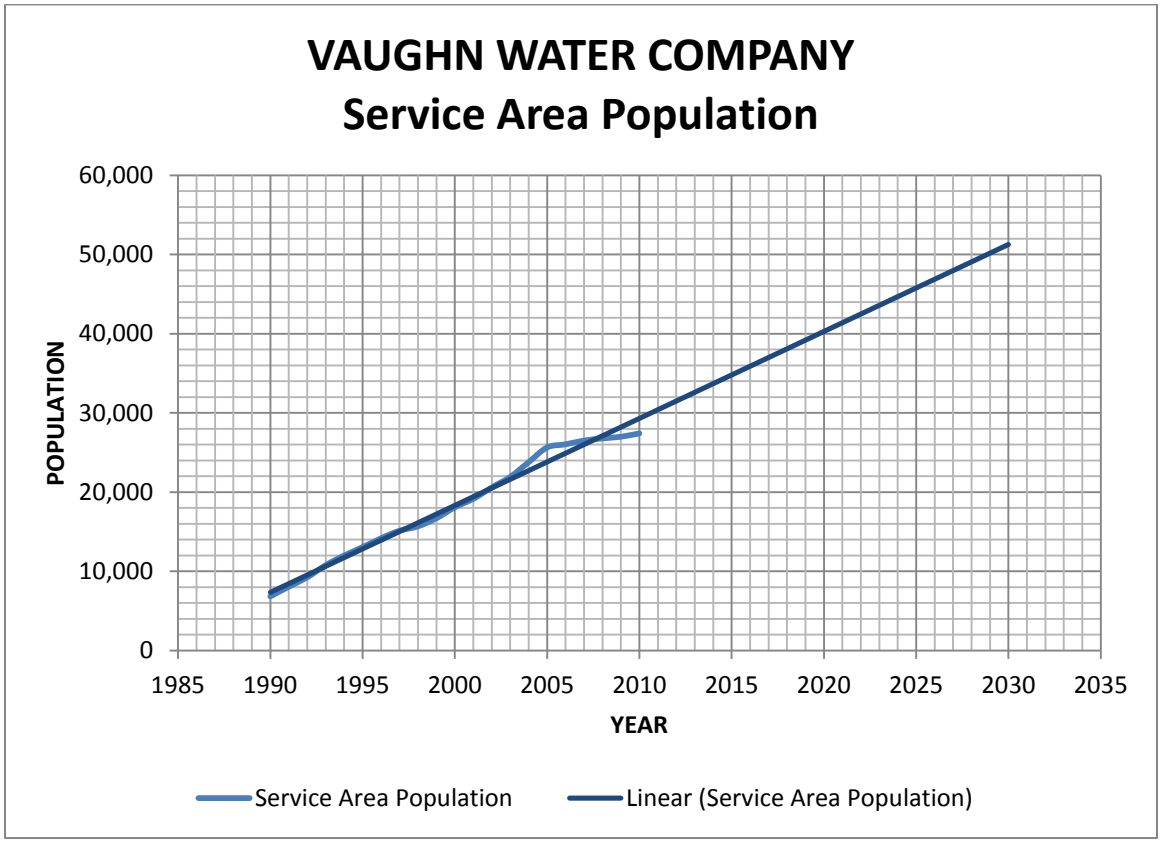


Table 4
Population — current and projected

	2010	2015	2020	2025	2030
Service area population	27,421	34,784	40,242	45,761	51,249

SECTION 3

SYSTEM DEMANDS

3.1 Groundwater and Underlying Districts

Vaughn Water Company relies totally on groundwater for its water supply. Underlying districts have groundwater replenishment programs that store water in the underlying groundwater basin. These districts are Rosedale - Rio Bravo Water Storage District and Improvement District No.4 of the Kern County Water Agency. Programs operated by these two districts have improved the reliability of the groundwater supply for the overlying residential water suppliers. The banking programs by these districts have resulted in much improved groundwater conditions over what would have prevailed had these districts not operated their programs. Vaughn Water Company participates in financing these programs through property taxes paid by company shareholders and by fees levied against each acre-foot of water pumped by the company within ID 4. System water supplies are addressed in Section 4.

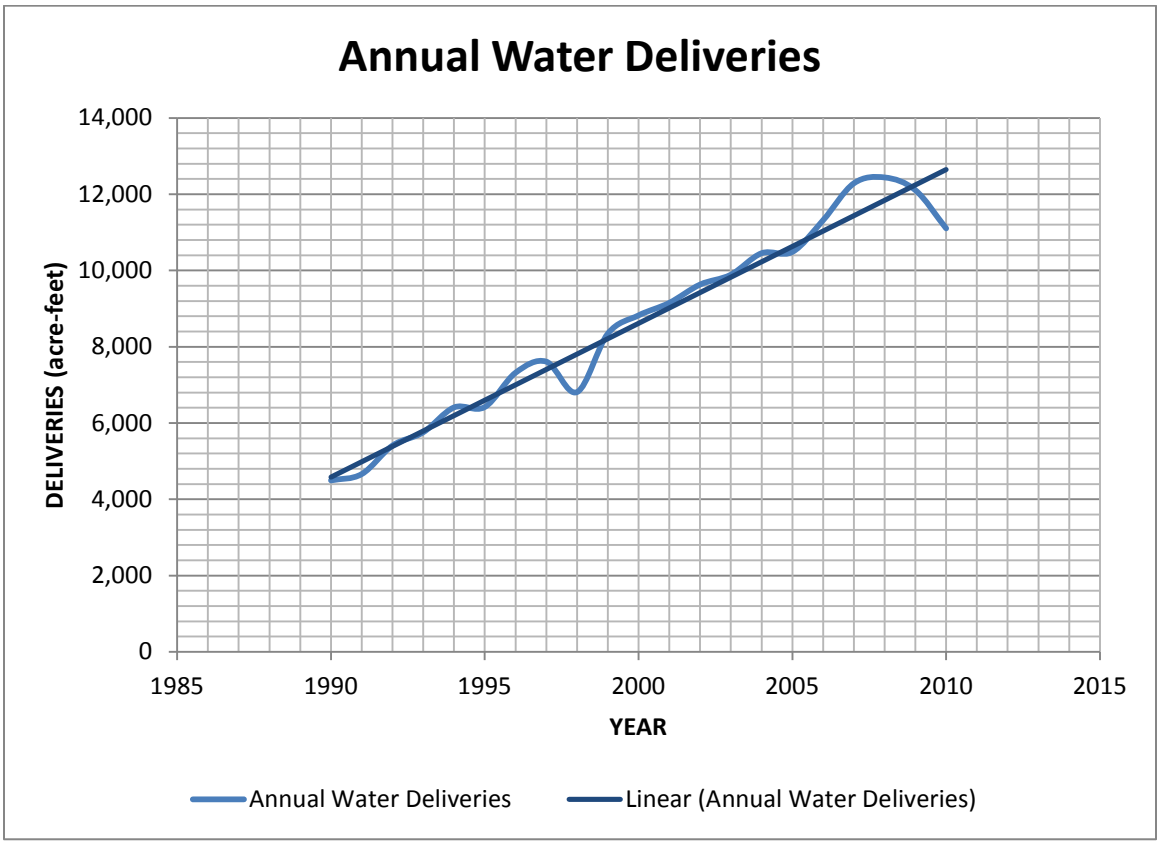
3.2 Water Demands

Company demands have increased over the years as the number of connections has increased. These demands are shown in the following Table 6.

Table 6
Annual Water Demands

		3.00%		
	ANNUAL TOTAL WATER	ANNUAL TOTAL WATER	ANNUAL TOTAL WATER	ANNUAL TOTAL WATER
YEAR	PRODUCED (GALLONS)	LOSSES (GALLONS)	DELIVERED (GALLONS)	DELIVERED (ACRE-FEET)
1990	1,509,611,749	45,288,352	1,464,323,397	4,494
1991	1,565,580,915	46,967,427	1,518,613,488	4,660
1992	1,816,703,433	54,501,103	1,762,202,330	5,408
1993	1,933,936,281	58,018,088	1,875,918,193	5,757
1994	2,152,708,073	64,581,242	2,088,126,831	6,408
1995	2,156,498,438	64,694,953	2,091,803,485	6,420
1996	2,458,298,640	73,748,959	2,384,549,681	7,318
1997	2,556,036,676	76,681,100	2,479,355,576	7,609
1998	2,287,784,358	68,633,531	2,219,150,827	6,810
1999	2,802,388,000	84,071,640	2,718,316,360	8,342
2000	2,963,773,340	88,913,200	2,874,860,140	8,823
2001	3,073,900,140	92,217,004	2,981,683,136	9,150
2002	3,235,287,915	97,058,637	3,138,229,278	9,631
2003	3,321,885,027	99,656,551	3,222,228,476	9,889
2004	3,511,348,128	105,340,444	3,406,007,684	10,453
2005	3,522,978,656	105,689,360	3,417,289,296	10,487
2006	3,802,178,478	114,065,354	3,688,113,124	11,318
2007	4,127,111,476	123,813,344	4,003,298,132	12,286
2008	4,179,163,591	125,374,908	4,053,788,683	12,441
2009	4,066,831,840	122,004,955	3,944,826,885	12,106
2010	3,730,114,798	111,903,444	3,618,211,354	11,104

Chart 2



The reduction in deliveries in 2010 is due to several factors, among them being the downturn in the economy, the wet rainfall year, and the reduction in service pressure in the northeast portion of the service area due to ongoing maintenance of a major supply well in that area.

3.3 Baselines and Targets

The following Tables 7 and 8 develop the Five Year and Ten Year Average Per Capita Water Use Target utilizing Option 1. 80% of the baseline gpcd water use.

Table 7
Five and Ten Year Average GPCD

YEAR	POPULATION	ANNUAL TOTAL WATER DELIVERED (GALLONS)	GALLONS PER CAPITA WATER USE	Ten Year Average (gpcd)	Five Year Average (gpcd)
1990	6,831	1,464,323,397	587.30		
1991	8,056	1,518,613,488	516.48		
1992	9,239	1,762,202,330	522.59		
1993	10,777	1,875,918,193	476.90		
1994	11,995	2,088,126,831	476.93		
1995	13,046	2,091,803,485	439.28	426	
1996	14,173	2,384,549,681	460.96	418	
1997	15,129	2,479,355,576	448.98	411	
1998	15,684	2,219,150,827	387.65	407	
1999	16,703	2,718,316,360	445.86	410	
2000	18,089	2,874,860,140	435.43	406	
2001	19,155	2,981,683,136	426.46	398	
2002	20,591	3,138,229,278	417.56		
2003	21,922	3,222,228,476	402.71		392
2004	23,784	3,406,007,684	392.34		395
2005	25,645	3,417,289,296	365.08		396
2006	26,037	3,688,113,124	388.08		
2007	26,511	4,003,298,132	413.71		
2008	26,787	4,053,788,683	414.61		
2009	26,997	3,944,826,885	400.34		
2010	27,421	3,618,211,354	361.51		

Table 8
Calculation of 2020 and 2015 Target GPCD

Ten Year Base Period	1995 - 2009	Highest Ten Year Average	426	gpcd
Five Year Base Period	2003 - 2007	Highest Five Year Average	396	gpcd
80% of Ten Year Baseline			341	gpcd
Maximum Target (95% of Five Year Base)			376	gpcd
2020 Target			**341**	**gpcd**
2015 Target			**384**	**gpcd**

3.4 Forecast Based on Target GPCD

Table 9
Annual Forecast Water Deliveries (afy)

Forecast Year	Service Area Population*	Average GPCD - Adjusted for 2015 and 2020 Target GPCD	Total Annual Forecast Demand (gallons / year)	Total Annual Forecast Demand (acre-feet)	Total Actual Deliveries (acre-feet)
2010	27,421	426	4,263,691,290	13,085	11,104
2011	30,393	418	4,632,599,768	14,217	
2012	31,491	409	4,703,365,567	14,434	
2013	32,588	401	4,767,400,269	14,631	
2014	33,686	392	4,824,703,875	14,806	
2015	34,784	384	4,875,276,384	14,962	
2016	35,881	375	4,916,498,458	15,088	
2017	36,979	367	4,950,829,172	15,194	
2018	38,077	358	4,978,268,525	15,278	
2019	39,174	350	4,998,816,518	15,341	
2020	40,272	341	5,012,473,150	15,383	
2021	41,370	341	5,149,098,380	15,802	
2022	42,468	341	5,285,723,611	16,221	
2023	43,565	341	5,422,348,841	16,641	
2024	44,663	341	5,558,974,072	17,060	
2025	45,761	341	5,695,599,302	17,479	
2026	46,858	341	5,832,224,533	17,898	
2027	47,956	341	5,968,849,763	18,318	
2028	49,054	341	6,105,474,994	18,737	
2029	50,151	341	6,242,100,224	19,156	
2030	51,249	341	6,378,725,455	19,576	

**** The population growth rate is discussed in prior sections of this plan.***

3.5 Water Demands – Water Demand Projections

Table 10
Water deliveries — actual, 2005

	2005				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	7,651	9,156	842	1,007	10,163
Multi-family	22	26	5	6	32
Commercial	127	152	17	20	172
Industrial	26	31	0	0	31
Institutional/governmental	0	0	0	0	0
Landscape	70	84	0	0	84
Agriculture	0	0	0	0	0
Other	4	5	0	0	5
Total	7,900	9,454	864	1,033	10,487
Units : acre-feet per year					

Table 11
Water deliveries — actual, 2010

	2010				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	8,295	9,842	681	808	10,650
Multi-family	40	47	4	5	52
Commercial	209	247	2	3	250
Industrial	25	30	0	0	30
Institutional/governmental	0	0	0	0	0
Landscape	99	117	0	0	117
Agriculture	0	0	0	0	0
Other		5	0	0	5
Total	8,668	10,288	687	816	11,104
Units: acre-feet per year					

Table 12
Water deliveries — projected, 2015

	2015				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	10,162	13,883	342	467	14,350
Multi-family	52	70	0		70
Commercial	228	337	0		337
Industrial	27	40	0		40
Institutional/governmental	0	0	0		0
Landscape	127	158	0		158
Agriculture	0	0	0		0
Other	5	7	0		7
Total	10,601	14,495	342	467	14,962
Units : acre-feet per year					

Table 13
Water deliveries — projected, 2020

	2020				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	12,281	14,754	0	0	0
Multi-family	60	72	0	0	0
Commercial	267	346	0	0	0
Industrial	32	42	0	0	0
Institutional/governmental	0	0	0	0	0
Landscape	148	162	0	0	0
Agriculture	0	0	0	0	0
Other	6	7	0	0	0
Total	12,794	15,383	0	0	15,383
Units : acre-feet per year					

Table 14
Water deliveries — projected 2025 and 2030

	2025		2030	
	metered		metered	
Water use sectors	**# of accounts**	**Volume**	**# of accounts**	**Volume**
Single family	14,359	16,764	16,789	18,775
Multi-family	70	82	82	92
Commercial	312	394	365	441
Industrial	37	47	43	53
Institutional/governmental	0	0	0	0
Landscape	173	184	202	206
Agriculture	0	0	0	0
Other	8	8	10	9
Total	14,959	17,479	17,491	19,576
Units: acre-feet per year				

3.6 Projected Low Income Water Demands

The Rosedale community is a relatively affluent area with 43% of the population employed in professional, management and related occupations, 16% in service occupations, and 25% in sales and office occupations. Only 5.5% of the population was unemployed in 2009. The percentage of families with incomes below the poverty level was 4% in 2009. *(Source: U.S. Census Bureau - Rosedale CDP: 2005-2009).* The Census Bureau information cited above indicates that about 6% of the families and 8% of the households in Rosedale have an income below $25,000. Using 8% as an estimate of the total water use for Low-Income water demand, the following Table 15 presents

Low-Income water demands.

Table 15
Low-income projected water demands

Low Income Water Demands[1]	2015	2020	2025	2030
Single-family residential	1,191	1,225	1391	1,558
Multi-family residential	6	6	7	8
Total	1,197	1,231	1,398	1,566
Units : acre-feet per year				
Estimated as 8% of total demand.				

Table 16
Total water use

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (from Tables 10 to 14)	**10,487**	**11,104**	**14,962**	**15,383**	**17,479**	**19,576**
Sales to other water agencies	**0**	**0**	**0**	**0**	**0**	**0**
Additional water uses and losses	**0**	**0**	**0**	**0**	**0**	**0**
Total	**14,487**	**11,104**	**14,962**	**15,383**	**17,479**	**19,576**
Units: acre-feet per year						

SECTION 4

SYSTEM SUPPLIES

4.1 Water Supply Sources: Groundwater

4.1.1 Water Supply Sources Groundwater / Surface Water

The water supply for the Vaughn Water Company service area comes from groundwater (no surface water is used). The Company currently has no institutional restrictions on the amount of groundwater it can extract. The Company is a water retailer which overlies portions of the Kern County Water Agency ("KCWA") Improvement District No. 4 ("ID4") and the Rosedale-Rio Bravo Water Storage District ("RRBWSD"). Landowners, including Vaughn Water Company pay water tolls to support the activities of both Districts. In addition Vaughn Water Company pays a "pump tax" for all groundwater extracted within ID4.

The Company's system is as follows:

1.) 12 Active Water Wells

2.) 3.80 Million Gallons of above ground storage

3.) 11 Booster Pumping Plants

4.) 9 Water Treatment Plants

5.) 4 Water Interties with other systems

The system has a peak capacity of 27,450 GPM and a continuous capacity of 16,950 GPM with a maximum monthly output of over 740,560,000 gallons (2280 acre-feet). The Company's total water production during 2010 was 11,104 Acre-Feet.

The Company's water production from 2005 to 2010 and projections through 2025 are presented in the following tables.

Table 17
Groundwater — volume pumped

Basin name	Metered or Unmetered	2006	2007	2008	2009	2010
Kern County Sub Basin	Metered	11,668	12,667	12,825	12,481	11,447
Total groundwater pumped		11,668	12,667	12,825	12,481	11,447
Groundwater as a percent of total water supply		100	100	100	100	100

Units: acre-feet. Accounts for 3% losses.

Table 18
Water supplies — current and projected

Water Supply Sources		2010	2015	2020	2025	2030
Water purchased from[1]:	**Wholesaler supplied volume (yes/no)**	**0**	0	0	0	0
Wholesaler 1	**n/a**	0	0	0	0	0
Supplier-produced groundwater		11,447	15,424	15,858	18,020	20,181
Supplier-produced surface water		0	0	0	0	0
Transfers in		0	0	0	0	0
Exchanges In		0	0	0	0	0
Recycled Water		0	0	0	0	0
Desalinated Water						
Other						
Other						
Units: acre-feet per year. Accounts for 3% loss.	Total	11,447	15,424	15,858	18,020	20,181

The Company's expansion policy is to grow as the community grows. New well sites are acquired as growth requires. When the projected water need occurs, new wells with treatment plants are drilled, constructed, and brought on line in a timely manner to meet the higher demand. A new well and plant will serve about 1,000 connections.

The following Table 8 depicts the calculation of the net groundwater demand for the Company service area for the years 2010 – 2030. Assumptions regarding interior and exterior water use and amounts returned to the groundwater basin are footnoted on the table.

Table 19

Net Groundwater Demand Calculation

Year	Total Demand (af)	Interior Water Use (af)	Exterior Water Use (af)	Return Flow from Interior (af)	Return Flow from Exterior (af)	Total Return Flow (af)	Net Demand (af)
2010	11,104	2,776	8,328	2,637	2,082	4,719	6,385
2015	14,962	3,741	11,222	3,553	2,805	6,359	8,603
2020	15,383	3,846	11,537	3,653	2,884	6,538	8,845
2025	17,479	4,370	13,109	4,151	3,277	7,429	10,050
2030	19,576	4,894	14,682	4,649	3,671	8,320	11,256

Notes:

1. 25% of total water use is assumed for interior of house.
2. 75% of total water use is assumed for exterior uses.
3. 95% of interior use is assumed to return to groundwater
4. 25% of exterior use is assumed to return to groundwater
5. 10% of total precip. applied over the current and projected service area

The net groundwater demand is about 58% of the total groundwater pumped.

4.2 Underlying Water Agencies – Sufficiency of Groundwater Supply

Vaughn Water Company overlies two local water agencies: Kern County Water Agency's Improvement District No.4 ("ID 4") and Rosedale-Rio Bravo Water Storage District ("RRBWSD") Most of the lands that Vaughn serves within ID 4 are currently developed to residential or commercial uses. The majority of the future development within the Company's service area will occur on lands within RRBWSD.

The Company has entered into a Memorandum of Understanding (See Appendix A) with RRBWSD in a cooperative effort to allow development of certain lands within the District. These lands are being converted from agricultural use to residential use. Lands within RRBWSD pay water tolls based on the benefit the lands receive from the Districts groundwater recharge programs. Lands that are converted to urban use continue to pay these groundwater benefit charges. RRBWSD has endeavored to create a groundwater balance within the District through importation of water for recharge and in-lieu water supply programs, and through cooperative programs with other water agencies. Studies by the District indicate that a groundwater balance is being achieved. The conversion of agricultural lands to residential and commercial use decreases the groundwater demand by about 50%, thus reducing the pressure on the groundwater basin.

Appendix A contains "Appendix 2", a hypothetical future operations study for the Rosedale-Rio Bravo Water Storage District. This study was published in 2002 and covers a future 37-year period and includes programs currently proposed by the District. The cumulative water balance in this thirty-seven year study shows a net groundwater storage increase of 206,467 acre-feet over the period for the District. The study indicates that groundwater supplies will be sufficient for the next several decades.

Improvement District No.4 was formed for the purpose of financing the Henry C. Garnett Water Purification Plant, related water conveyance facilities, and a portion of the cost of the Cross Valley Canal. Upon reaching ID 4, the supplemental water supply from the State Water Project ("SWP") was to be delivered directly to recharge areas for direct replenishment of the aquifer or to the Henry C. Garnett Water Purification Plant for use by water purveyors. ID 4 encompasses approximately 65,400 acres. The ID 4 water supply project is based on the concept of a treated water supply to permanently replace a portion of groundwater pumping and SWP water recharged into the underground aquifers to supply ongoing groundwater pumping. The Zone 7 assessments, applied to all the lands within ID 4, pay for the annual SWP water supply of 82,946 acre-feet. This amounts to 1.27 acre-feet per acre of land within ID 4. ID 4 pursues a number of other supplies in addition to its SWP supply. This includes interruptible water from the SWP, high flow Kern River and Central Valley Project ("CVP") water, exchanges with Kern River interests, and other SWP Contractors.

Groundwater pumping charges (currently $35 per acre-foot of M&I water) help pay for the operation of the ID 4 project (including ID 4's share of the operation and maintenance of the Cross Valley Canal – which conveys the water from the California Aqueduct near Tupman to ID 4). Vaughn Water Company pays these tolls on the water pumped from Company wells located within ID 4. Land owners within ID 4 pay the annual Zone 7 assessments. These are collected on the property tax bill.

Vaughn Water Company supports the efforts of both agencies to achieve a groundwater balance in the Company's service area, and recognizes that Company–served landowners within both agencies have

contributed significant amounts of money to aid in the achievements made thus far and will continue to contribute to these efforts.

Appendix B contains Figure 1, a hydrograph representing water levels in the Krause Well, located in Rosedale-Rio Bravo Water Storage District (Well 29/26-15H1).This hydrograph covers the period 1982 – 2007. Note that during the most recent dry period (1988 – 1994) water levels decreased about 100 feet. This did not significantly impact Vaughn Water Company wells as the wells are deep and pump settings are also deep. Figure 2, is a hydrograph representing water levels in the Company's Jewetta Well, located on the west boundary of ID 4 (Well 29/27-30D50). This well was drilled in the 1970's and was placed on standby in the late 1980's. This hydrograph covers the period 1989 - 2010.

4.3 Recycled Water

Vaughn Water Company does not have the responsibility of handling the sewer or storm drain system in the Rosedale service area. The city sections of the area are on sewers and the County sections of the area are mainly on septic systems. The storm drain systems run into County and / or City sumps. The Company handles only potable water from wells and does not recycle water.

4.4 Transfer and Exchange Opportunities

Vaughn Water Company does not have any surface water supply contracts and has no access to transfer or exchanges. The Company's service area overlies Rosedale-Rio Bravo Water Storage District (RRBWSD) and the Kern County Water Agency's Improvement District No. 4 (ID4). Vaughn Water Company is essentially a water retailer and relies on RRBWSD and ID-4 as water wholesalers to bring in

the water supply to the service area. Vaughn Water Company has in the past, and will continue in the future, to assess the possibilities of a surface water supply for lands within ID4.

4.5 Planned Water Supply Projects and Programs

Vaughn Water Company's water supply comes totally from groundwater. The groundwater basin is managed by two underlying districts, Rosedale Rio-Bravo Water Storage District and Kern County Water Agency's Improvement District No. 4. Both entities import surface water to mitigate the effects of groundwater pumping.

A future link to the Henry Garnett Water Purification Plant operated by ID No.4 may be constructed within the next decade, depending on the housing market, availability of supply, and financing opportunities.

Vaughn Water Company continues to grow, currently at a reduced pace compared to recent years, and has plans to add new wells, treatment plants, and water storage to meet the continuing growth.

4.6 Development of Desalinated Water

Vaughn Water Company has no plans to develop brackish groundwater.

4.7 Wholesale Water

The Company does not receive wholesale surface water and is not a wholesale water purveyor.

SECTION 5

WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

5.1 Water Supply Reliability

5.1.1 Reliability

Reliability is a measure of a water service system's expected success in managing water shortages. In addition to climate other factors that can cause water supply shortages are earthquakes, chemical spills, and energy outages at pumping and treatment facilities.

Reliability planning requires information about: (1) the expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; (3) how available contingency measures can reduce the impact of shortages when they occur.

Since Vaughn Water Company relies on groundwater supplies to meet 100% of its demand short-term shortages would likely be due to earthquake and / or electricity outages. Long term shortages would result in lowering groundwater pumping levels thus increasing the cost of pumping.

5.1.2 Plans to Assure a Reliable Water Supply – Delivering Capability

The Company operates twelve wells and three storage facilities. Six of the wells have passive treatment systems (activated carbon) and four have active treatment systems (ozone).

In the event of electrical supply shortage the Company has three portable generators that can be deployed to designated locations in the service area. In the unlikely event of a 100% electrical outage, three of the production sites could be operated, providing about 25% of the system's peak summer requirements and 100% of the peak winter requirement. In the more-likely event of partial electrical outage the Company will use a combination of generators and available electricity to meet water demands. These steps, combines with public notification, will allow the Company to meet reduced water demands during catastrophes.

In the event of drought the Company will experience increased pumping lift in its wells. The attached hydrographs (APPENDIX B) depict typical variations in groundwater depths in the Rosedale area due to periods of reduced surface water supplies. These supplies are used to replenish the groundwater table. Pumping lift increases of from 70 to 100 feet would not be uncommon during an extended three-year drought. The Company's pumps are set deep enough to allow for these variations.

Table 20
Basis of water year data

Water Year Type	Base Year(s)
Average Water Year	2015
Single-Dry Water Year	1977
Multiple-Dry Water Years	1931-1934

Table 28
Supply reliability — historic conditions (acre-feet)

Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
Groundwater	14,962	14,962	14,962	14,962	14,962
Percent of Average/Normal Year:	100%	100%	100%	100%	100%

5.1.3 Factors Resulting in Inconsistency of Supply

Vaughn Water Company uses 100% groundwater for its supply. The main environmental agents affecting Vaughn Water's supply are multiple year drought and water quality.

Vaughn Water Company operates under the jurisdiction of the State of California Department of Public Health (DPH). DPH sets water quality standards and requires us to perform a listed set of water quality tests. All of Vaughn's water meets all water quality standards, but there are some water quality issues that the Company must handle. Currently the Company has installed treatment for DBCP and EDB and taste and odor. Chlorination is installed at all Company source locations.

5.2 Water Shortage Contingency Planning

5.2.1 Coordinated Planning

The Vaughn Water Company ("Vaughn") supplies municipal, commercial, and industrial water to the Rosedale Area of West Bakersfield, which lands are included in either the County of Kern or the City of Bakersfield. These lands are also within one of two public water agencies: the Rosedale-Rio Bravo Water Storage or Improvement District Number Four ("ID4") of the Kern County Water Agency. Vaughn's customer base is primarily residential with commercial, industrial, and other uses in the minority. Historically, the typical Rosedale Area residential lot has been ½ to 2-1/2 acres (22,000 to 109,000 square feet) with either a great deal of landscaping, pastures for large animals, or small orchards. In the past few years the trend has been towards smaller lots of 6,000 to 11,000 square feet and therefore unit water use has decreased.

Vaughn is dependent solely on groundwater sources for its water supply. The Company has no institutional restrictions on the amount of groundwater it can extract. Individual land owners pay water tolls to either ID4 or Rosedale-Rio Bravo because of groundwater benefits due to surface water importation programs operated by each agency. Additionally pumpers pay a "pump tax" to ID4 based on the quantity of groundwater pumped. Both ID4 and Rosedale-Rio Bravo monitor groundwater levels in the Rosedale Area. The Company also monitors this information. The impact of continuing drought is lowering of groundwater levels. This is because of reduced surface water imports which restrict groundwater recharge programs and increase groundwater extractions as temporary replacements for surface water deliveries.

Vaughn is represented on the Urban Bakersfield Advisory Committee and participates in certain of its programs.

5.2.2 Stages of Action

For purpose of this Contingency Plan the flowing levels of supply reductions were assumed: Stage 1) 15% reduction, Stage 2) 30% reduction, Stage 3) 50% reduction. Accordingly the following Table presents the normal demands together with 15%, 30%, and 50% reductions in these demands for 2006 through 2010.

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The Board of Directors of the Company will set the action stage upon review of changes in groundwater levels and projected shortage in surface water deliveries for the Bakersfield urban area. The Company intends to act in concert with other urban water suppliers in the Bakersfield area.

The plan for each successive reduction stage is as follows.

Table 29
Projected 2010-2014 Water Demand with 15%, 30%, & 50% Reductions

	2010	2011	2012	2013	2014
Projected Demand	**11,104 af**	**14,217 af**	**14,434 af**	**14,631 af**	**14,806 af**
Water Use with 15% Reduction	**9,438 af**	**12,085 af**	**12,269 af**	**12,436 af**	**12,585 af**
Water Use with 30% Reduction	**7,773 af**	**9,952 af**	**10,104 af**	**10,242 af**	**10,364 af**
Water Use with 50% Reduction	**5,552 af**	**7,109 af**	**7,217 af**	**7,315 af**	**7,403 af**

5.2.3 Mandatory Prohibitions on the Wasteful Use of Water and Enforcement Methods

Vaughn Water Company, Inc., operates under Bylaws that were last amended by the Board of Directors on January 7, 1997. Article VII, Section 2.g states "Any shareholder who wastes water shall, at the discretion of the Board of Directors, have service terminated until such time that the shareholders can make reasonable assurances to the Company that the delivered water shall not be wasted."

5.2.4 Enforcement Methods

Enforcement methods will depend on the Stage of Action. Enforcement will range from voluntary reduction programs with no penalties to reduction of system pressures to reduce flow quantities. The following table presents anticipated enforcement methods by reduction required.

ENFORCEMENT METHODS FOR OBTAINING WATER USE REDUCTIONS

STAGE	REDUCTION GOAL	ENFORCEMENT METHOD
1	15%	Voluntary program. Community education program via flyers sent with or in additional to billings. Water conservation tips made available to users.
2	15% - 30%	Mandatory program. Includes Stages 1 Methods.

		Surcharges on use above 75% of the "normal" use for metered users. Close monitoring of flat rate users with penalties for wasting water, including installation of meters for those who refuse to conserve. Water conservation devices made available for purchase at cost through Company. Community education program via public information programs with public meetings held at Company office to discuss water conservation measures and status of the program. Water audits and landscape recommendations made available to water users with large landscaped lots or pastures.
3	30% - 50%	Mandatory program. Includes Stages 1 and 2 Methods. Large lot water users required to cut landscaping and/or pasture use by 50%. Water audits required for large lots with large amounts of landscaping, system pressure reductions or flow restrictions required if water use does not meet required 50% reduction.

5.2.5 Catastrophic Supply Implementation Plan

The following is a listing of possible catastrophes and the actions the Company plans to take for each one:

Regional Power Outage

The Company will employ portable generators already installed, to operate the most critical wells/booster plants in the system. The Company will notify residents to minimize water usage during the time of the outage. This will be by local radio and door to door notification. The Company has four generators which will run two wells, the 2.7 million gallon storage tank and the main office.

Earthquake

Wells that remain serviceable will be utilized. Portable generators will be used if necessary. There are four interties with other water suppliers that also could be used. (Bottled water will be trucked into the service area for drinking purposes).

Terrorism

Vaughn Water Company has taken several steps to minimize the effects of an act of terrorism on the Company's supply and distribution system. All of the locks at the well and treatment plant sites have been changed and the keys limited to Company personnel only. The major water production sites are equipped with an intruder alarm system. These sites have battery backups that keep the alarm system running during power outages. Each site is visited daily and the Company does not allow unauthorized visitors access to the sites. The operation staff tests the chlorine residuals at each site daily and several weekly bacteria tests are taken throughout the distribution system. The Company also has a state approved Emergency Response Plan and a

Vulnerability Assessment Plan that can used for all types of problems from power outages to an act of terrorism.

5.2.6 Revenue Impact

Since the present residential customer is billed using a minimum base rate for a set amount of usage, the affects on revenue are likely to be minimal. There are additional costs to be incurred for enforcement of reduction plans beyond the 15% reduction level. (The Company would plan to counter the cost of increased water conservation efforts by rate modification).

5.2.7 Ordinance and Use Monitoring Procedure

Since 1984 the Vaughn Water Company Board of Directors has required all new services to be metered. The Company's flat rate services are being converted to meters when the property is sold. The Company currently stands at 90% metered 10% flat rate. It is believed meters help to promote conservation and the Company and the customers can at least track the actual usage. Becoming fully metered will help the Company design rate structures for the future that will also help with conservation.

In 1991 the Company's Board of Directors approved the procedure for Controlling Water Wasting. Vaughn Water Staff looks for water wasting during the normal course of daily operations, and the Company also investigates and takes the appropriate action on all customer wasting water complaints.

The Company's Billing Department checks water use through its billing software program. The program looks for unusually high water usage. After these are identified and re-checked, they are turned over to the Operations Department for investigation. The staff then meets with the customer to help locate the problem and/or to counsel the customer on ways to conserve.

The Company will continue to look for ways to minimize water wasting.

5.3 Supply and Demand Comparison Provisions

5.3.1 Supply and Demand Comparison

The following tables present the current and projected water demands. The projection is based on the past use shown on the attached chart. The demands are projected through 2030. Since demand is met by pumping from groundwater storage and is relatively unaffected by short-term shortages, it is assumed that ground supply meets demand.

Table 30
Supply and demand comparison — normal year

	2015	2020	2025	2030
Supply totals	14,962	15,383	17,479	19,576
Demand totals	14,962	15,383	17,479	19,576
Difference	0	0	0	0
Difference as % of Supply	0	0	0	0
Difference as % of Demand	0	0	0	0
Units are in acre-feet per year.				

Table 31
Supply and demand comparison — single dry year

	2015	2020	2025	2030
Supply totals	14,962	15,383	17,479	19,576
Demand totals	14,962	15,383	17,479	19,576
Difference	0	0	0	0
Difference as % of Supply	0	0	0	0
Difference as % of Demand	0	0	0	0
Units are in acre-feet per year.				

Table 32
Supply and demand comparison — multiple dry-year events

		2015	2020	2025	2030
Multiple-dry year first year supply	**Supply totals**	14,962	15,383	17,479	19,576
	Demand totals	14,962	15,383	17,479	19,576
	Difference	0	0	0	0
	Difference as % of Supply	0	0	0	0
	Difference as % of Demand	0	0	0	0
Multiple-dry year second year supply	**Supply totals**	14,962	15,383	17,479	19,576
	Demand totals	14,962	15,383	17,479	19,576
	Difference	0	0	0	0
	Difference as % of Supply	0	0	0	0
	Difference as % of Demand	0	0	0	0
Multiple-dry year third year supply	**Supply totals**	14,962	15,383	17,479	19,576
	Demand totals	14,962	15,383	17,479	19,576
	Difference	0	0	0	0
	Difference as % of Supply	0	0	0	0
	Difference as % of Demand	0	0	0	0
Units are in acre-feet per year.					

Table 33
Projected Multiple Dry Year Water Demand (afy)

Year	2011	2012	2013	2014	2015
Normal Year Water Demand	14,217	14,434	14,631	14,806	14,962
Assumed Demand Reduction	5.0%	15.0%	27.5%	40.0%	50.0%
Multiple Dry Year Demand	13,506	12,269	10,607	8,884	7,481
% of Normal Year	95.0%	85.0%	72.5%	60.0%	50.0%
Projected Multiple Dry Year Water Supply (afy)					
Water Supply	13,506	12,269	10,607	8,884	7,481
% of Normal	95.0%	85.0%	72.5%	60.0%	50.0%
Projected of Normal Year Water Demand (afy)					
Demand Totals	14,217	14,434	14,631	14,806	14,962
Supply Totals	13,506	12,269	10,607	8,884	7,481
Difference	711	2,165	4,024	5,922	7,481
Difference as a % of Demand	5.0%	15.0%	27.5%	40.0%	50.0%
Difference as a % of Supply	5.3%	17.6%	37.9%	66.7%	100.0%

Table 34
2016-2020
Projected Multiple Dry Year Water Demand (afy)

Year	2016	2017	2018	2019	2020
Normal Year Water Demand	15,088	15,194	15,278	15,341	15,383
Assumed Demand Reduction	5.0%	15.0%	27.5%	40.0%	50.0%
Multiple Dry Year Demand	14,334	12,915	11,077	9,205	7,692
% of Normal Year	95.0%	85.0%	72.5%	60.0%	50.0%
Projected Multiple Dry Year Water Supply (afy)					
Water Supply	14,334	12,915	11,077	9,205	7,692
% of Normal	95.0%	85.0%	72.5%	60.0%	50.0%
Projected of Normal Year Water Demand (afy)					
Demand Totals	15,088	15,194	15,278	15,341	15,383
Supply Totals	14,334	12,915	11,077	9,205	7,692
Difference	754	2,279	4,201	6,136	7,692
Difference as a % of Demand	5.0%	15.0%	27.5%	40.0%	50.0%
Difference as a % of Supply	5.3%	17.6%	37.9%	66.7%	100.0%

Table 35
2021-2025
Projected Multiple Dry Year Water Demand (afy)

Year	2021	2022	2023	2024	2025
Normal Year Water Demand	15,802	16,221	16,641	17,060	17,479
Assumed Demand Reduction	5.0%	15.0%	27.5%	40.0%	50.0%
Multiple Dry Year Demand	15,012	13,788	12,065	10,236	8,740
% of Normal Year	95.0%	85.0%	72.5%	60.0%	50.0%
Projected Multiple Dry Year Water Supply (afy)					
Water Supply	15,012	13,788	12,065	10,236	8,740
% of Normal	95.0%	85.0%	72.5%	60.0%	50.0%
Projected of Normal Year Water Demand (afy)					
Demand Totals	15,802	16,221	16,641	17,060	17,479
Supply Totals	15,012	13,788	12,065	10,236	8,740
Difference	790	2,433	4,576	6,824	8,740
Difference as a % of Demand	5.0%	15.0%	27.5%	40.0%	50.0%
Difference as a % of Supply	5.3%	17.6%	37.9%	66.7%	100.0%

Table 36
2026-2030
Projected Multiple Dry Year Water Demand (afy)

Year	2026	2027	2028	2029	2030
Normal Year Water Demand	17,898	18,318	18,737	19,156	19,576
Assumed Demand Reduction	5.0%	15.0%	27.5%	40.0%	50.0%
Multiple Dry Year Demand	17,003	15,570	13,584	11,494	9,788
% of Normal Year	95.0%	85.0%	72.5%	60.0%	50.0%
Projected Multiple Dry Year Water Supply (afy)					
Water Supply	17,003	15,570	13,584	11,494	9,788
% of Normal	95.0%	85.0%	72.5%	60.0%	50.0%
Projected of Normal Year Water Demand (afy)					
Demand Totals	17,898	18,318	18,737	19,156	19,576
Supply Totals	17,003	15,570	13,584	11,494	9,788
Difference	895	2,748	5,153	7,662	9,788
Difference as a % of Demand	5.0%	15.0%	27.5%	40.0%	50.0%
Difference as a % of Supply	5.3%	17.6%	37.9%	66.7%	100.0%

SECTION 6

DEMAND MANAGEMENT MEASURES

6.1 Demand Management Measures

Vaughn Water Company continues to implement both management and technical practices to promote and establish water conservation. These practices are as follows:

A. Water Survey Programs for Single Family Residential and Multi-Family Residential Customers

The Operations Staff works with individual and groups of customers to promote water conservation. Water surveys are triggered by high usage meter readings, low pressure complaints, and customers who call regarding a water bill. Surveys with the customers include the following:

1) Reviewing historical water usage for the property with the customer
2) Inspecting and identifying any leaks on property
3) Checking irrigation system for efficient seasonal watering schedule
4) Checking flow rates and pressure at hose bibs, shower heads, sink faucets, and toilets
5) Educate customers how to read a water meter and calculate usage
6) Test meters for accuracy

Follow up surveys are performed and contact is made with the customers to verify the reduction in usage.

B. Residential Plumbing Retrofit

State legislation effective January 1, 1992 requires the installation of efficient plumbing in new construction (1.6 GPF toilets; 2.5 GPM shower heads; 1.0 GPF urinals; and 2.2 GPM kitchen/bathroom faucets). 6,498 of our 9,359 connections are homes built after January 1, 1992, and utilize these water saving devices. Many of the homes built before 1992 have undergone some form of repair or remodel and may have had the less efficient toilets, shower heads, and faucets replaced. Vaughn Water Company provides conservation literature at our office and recommends the use of water saving devices.

C. System Water Audits, Leak Detection, and Repair

Vaughn Water Company staff reviews water production records and compares the amount of water produced against the billed consumption records to determine the amount of unaccounted for water. We are currently 93% metered and 7% flat rate. Usage by flat rate customers and our system flushing program are estimated conservatively. Our unaccounted for water consistently falls below 1.5%.

District water mains and meter connections are routinely inspected by meter readers, treatment operators, maintenance, and construction personnel. Leaks are repaired immediately by staff employees and/or contracted help.

D. Metering with Commodity Rates

The Company is currently 93% metered and 7% flat rate. Metered customers pay additional costs for water usage over the baseline allowance. Since 1984, the Vaughn Water Company Board of Directors mandated all new services would be metered. Flat rate accounts are retrofitted to meters when property ownership changes. A minimum of 50 meters will be retrofitted every year until all services are 100% metered.

The Company has also implemented a policy which allows smaller ¾" meters on properties 6,000 sqft. or less. These meters have lower flow capacity than the standard 1" meter. The ¾" meter rate has a lower baseline allowable usage and combined with the lower flow rate, encourages conservation of water. The ¾" meter policy is available for new subdivisions and can also be retrofitted to existing homes. The Company restructured its commercial billing rate in 2008 to encourage conservation of water. In January 2010 the Company implemented a tiered rate structure for all residential customers. Residential customers are billed on a monthly basis for their actual water usage.

E. Large Landscape Conservation Programs and Incentives

Water usage by large landscape accounts are monitored on a weekly basis. Meters are read and checked for accuracy; usage is calculated and compared against historical usage. High usage accounts are checked for leaks and inefficient irrigation schedules. Many large landscape accounts are maintained by City of Bakersfield or

County of Kern Landscaping Departments, where the irrigation system is monitored electronically and the irrigation schedule set by experienced specialists.

Landscape watering literature is available at our office and conservation tips are included in our annual letters that promote water conservation.

F. High Efficiency Washing Machine Rebate Programs

The Company does not offer rebates for the purchase of high efficiency washing Machines. Conservation literature available at the office recommends the use of high efficiency washing machines. Vaughn Water Company staff encourages those purchasing these machines to pursue rebates offered by the manufacturer and by Pacific Gas & Electric Company for energy star approved appliances.

G. Public Information Programs

Information is currently made available to the public through our Annual Consumer Confidence Report mailing, on our website, and other literature at our office. Comments and advisories are also printed on our billing statements.

H. School Education Programs

Water quality and water conservation literature is made available to students when requested. Additionally, the Kern County Water Agency provides water conservation programs supported by pump taxes paid by Vaughn Water Company.

I. Conservation Programs for Commercial, Industrial, and Institutional Accounts

3.5% of our accounts are categorized as Commercial and Industrial. These accounts are metered and the Company restructured the commercial billing rate in 2007 to encourage conservation. The majority of these accounts use ultra low flush toilets, low flow 1 GPF urinals, and water saving devices as required by state legislation January 1, 1992.

J. Wholesale Agency Programs

Vaughn Water Company is not a wholesale water provider.

K. Conservation Pricing

Vaughn Water Company offers a tiered usage allowance determined by meter size and capacity. To promote conservation, water usage is charged by the cubic foot and the cost per cubic foot also increases at each tier.

The Company has also implemented a policy which allows smaller ¾" meters on properties 6,000 sq. ft. or less. These meters have lower flow capacity than the standard 1" meter. The ¾" meter rate has a lower baseline allowable usage and combined with the lower flow rate, encourages conservation of water. The ¾" meter policy is available for new subdivisions and can also be retrofitted to existing homes. The Company restructured

the commercial billing rate in 2007 and the residential billing rate in 2011 in an effort to encourage conservation.

L. Water Conservation Coordinator

The Company has designated Van Grayer as water conservation coordinator. The Assistant operations supervisor and Meter Readers devote 10% -20% of their time to addressing water conservation concerns. Water Conservation information is provided to the public through literature available at our office, on our website, in the annual Consumer Confidence Report, and by suggestions noted on regular billing statements.

M. Waste Water Prohibition

The Company maintains a strict, documented program to control wasting water. The policy applies to both metered and flat rate customers and prohibits flooding and run off on sidewalks and streets. The Company procedures to stop wasting water range from warning letters showing ways to eliminate wasting to discontinuing water service. The policy also has provisions to install meters on flat rate services that waste water.

N. Residential Ultra Low Flow Toilet Replacement Program

Vaughn Water Company does not offer a residential ultra low flow toilet replacement program because it is not cost effective. Additionally, only 2,861 of our 9,359 connections consist of homes built before 1992 that may still use the less efficient 3.5 GPF toilets. The following assumptions are made to determine return on investment:

4 people per home X 4 flushes per day X 365 days X (3.5 GAL – 1.6 GAL) =

11,096 Gallons per year saved per home

11,096 GAL / 7.48 = 1483.4 Cubic Feet

Cost to Produce 100 CF of water = $ 0.615

1483.4 CF X 0.00615 = $ 9.12 per year savings

Cost of Average 1.6 GPF toilet	$ 140.00
Installation by Plumber	$ 125.00
	$ 265.00 Total

$ 265.00 / $ 9.12 = 29.05 years return on investment not including costs related to administration and tracking the program.

6.2 Evaluation of Demand Management Measures

Table 33
Demand Management Measures

Vaughn Water Company				
Demand Management Measures Program				
	Demand Management Measure	**Implemented**	**Not Implemented**	***Planned Implementation Date***
1	Water survey programs for sfr & mfr customers.	**X**		
2	Residential plumbing retrofit.		**X**	***NOT PLANNED***
3	System water audits, leak detection and repair.	**X**		
4	Metering with commodity rates for all new connections and retrofit of existing connections.			***2007***
5	Large landscape conservation programs and incentives.	**X**		
6	High-efficiency washing machine rebate programs.		**X**	***NOT PLANNED***
7	Public information programs.	**X**		
8	School education programs.	**X**		
9	Conservation programs for commercial, industrial and institutional accounts.			***2007***
10	Wholesale agency programs.			***N/A***
11	Conservation pricing.			***2007***
12	Water conservation coordinator.	**X**		
13	Water Waste prohibition.	**X**		
14	*Residential ultra-low flush toilet replacement programs.*		***X***	***NOT PLANNED***

SECTION 7

ADOPTION
AND
IMPLEMENTATION OF UWMP

(Board Resolution)